PA Stakeholders' Meeting - June 20&21

Thursday, June 20

I. Opening Remarks

- CAC announced suit filing (w/ Sierra Legal Defense) against EPA for Phil & Balt 15% plans.
- Jim Rue commented on FERC meeting next week, and status of ozone /PM NAAQS revisions

II. Discussion of Measures Evaluation Criteria

- Jim Wilson, Pechan, presented list of evaluation criteria
- Group broke into sub-workgroups to discuss addition of measures to the list.

[** Nancy Parks asked EPA to provide copy of our "Cost/Benefits of the Clean Air Act" document to the group]

- Note: 1.5 hr discussion on "fairness" of attainment goal.

III. (After Lunch) Presentation on Ozone transport by S.T. Rao

- Reducing ozone by 10-30% throughout the Northeast corridor would provide attainment (Emission modelling done). Question is how to get there? Modelling can't help after that.
- Models cannot be used as absolute ozone predictors. Models can provide direction (VOC vs. NOx) and where.
- A 75% reduction in NOx (1988) / 30% VOC would provide the 30% needed in that domain. (using '88 ROM episode). VOC reductions at similar magnitude are only half as effective in reducing ozone, in same scenario.
  * Using a '88 ROM episode, 50% NOX and 25% VOC reductions would provide the 30% reduction in O_3.
  * Same reduction in '91 scenario yields 25% reduction in O_3.

- Models are bad for use as predictive re: control strategy choice. Boundary conditions are highly sensitive, & input from one model domain w/ neighboring domain outputs can be very subject to variance [stressed again model weaknesses, emphasis on directive use]

→ Recomendation: reduce NOx by 50% regionwide, VOC by lesser amount. Don't rely on projection inventories for future attainment.

- Seasonal controls are preferable, but there is some additional benefit for year round controls.

Note: * 2 weeks ago @ OTAG, EPA agreed to allow grid cells over 120 ppb for attainment demos, if the state has other data to prove a downward trend.

Note: - Jim Rye cited 35-40% reductions in NOx from NOx RACT (from point category) & an additional 65% reduction (from point sources) from Phase II NOx MOU.

PA Stakeholders' Program - June 2012

Friday, June 21

I. Opening Comments

II. Presentation by SEPTA
"Land Use Planning"

III. Potential Control Measures
Presentation by Jim Wilson, E.H. Pechan

4/1/96

Ozone Stakeholders meeting

Sun - Working on attainment plan - action plan for 1999
wants to see how this fits into that plan

DVRPC -

~~Stan~~ Service Station - Wants to see that cost of control
on his sector - no dynamo
rest of state doesn't have to use them

Septa - Wants to see a solution finally

Penn Dot wants to be part of the solution

AAA does not agree with classification
funding also to be shared between auto - industry

Graphic Arts - has cut as far as they can - losing
new growth

ALA - Concerned about health

City of Phila - Concerned about both health and jobs

Valley Forge
TMA - represents many constituents

Rohm / Haas - happy to be part of process

ARCO - rep ARCO and oxy fuels - largest producer of MTBE

DEP Region - wants a solution

Auto Dealer - Wants a solution that is economical to Dod and not focus on just car

Sierra
~~Sierra~~ Club - want clean air now - not all groups represented
skeptical of effort - Strong I/M centralized message

Clean Air Council - Air Quality is bad - questions of process can work

DR Val TMA - rep. large groups

PHILADELPHIA OZONE STAKEHOLDER WORKING GROUP
Meeting Summary: April 1 & 2
Organizational Meeting
Ridley Creek State Park
Sycamore Mills Road, Media

DAY 1
Morning Session:

I. Welcome Jim Seif, Secretary, DEP.

Jim Seif opened the Stakeholder Working Group providing two guiding principles the Stakeholders working group should follow: (1) that the goal of the group was to reach the EPA ozone standard, (2) that attainment strategies should be customized to meet our environment. Mr. Seif emphasized the need for debate, out of which comes the legitimacy necessary for a successful attainment plan. He mentioned that some form of decentralized vehicle inspection is required, that cars are part of the problem and must therefor be a part of the solution. At the same time, Mr. Seif stressed the need to talk to all of the players and to pioneer a joint problem solving process to fully explore all options for attainment.

II. Introductions

III. Background and Context - Jim Rue, Deputy Secretary, DEP.

Jim Rue welcomed the Stakeholders and emphasized the need for everyone to work together to solve the region's ozone problem.

IV. Protocols

The stakeholders reviewed and revised the draft operating agreements through discussion and consensus (see amended Operating Agreements). Revisions included the issue of alternates participating in consensus-building deliberations (when principles were absent). Consensus was formed that alternates must be present as much as possible to participate in the absence of a principle stakeholder. The working group also revised the procedures for observer participation, media coverage and input from outside sources of scientific information.

Stakeholders reached consensus that the composition of the Stakeholder working group should be increased to include a representative from county government and additional representation from community groups.

V. Year Long Agenda/Milestones

CDR distributed blank schedules to the stakeholders and will draft a year-long schedule of meeting dates. (see amended milestones and dates)

VI. Scoping Issues:

Stakeholders identified issue areas that the working group would need to address. The following is an edited, consolidated list: (An unedited list can be found at the end of this meeting summary.)

BACKGROUND DATA

Ozone: What is the chemistry of Ozone production and what is the role of NOx and VOC's in its formulation?
What is NOx/VOC interaction?
Correlation between ozone episode and health impacts, i.e., heat, ozone, etc.
How important are the risks from ozone exposure compared to other risks, how much should be spent given these risks?
Quantification of health care costs.
Health and Causality: When do you list a death as an environmental cause?
Is there a particular precursor that we should focus on over others, is one more important?

Status: Where are we, where do we need to go?
What is the ozone standard and how far are we from it?
How will we demonstrate attainment, i.e., trend analysis, photochemical analysis, etc.
How will the new EPA standard affect attainment?
What should be included in our SIP and what is in the SIP now, How much further do we have to go?
What are current emission inventories for NOx and VOC's? How much has been reduced since Clean Air Act attainment began?
What are the implementation details of NOx MOU?
What is the current status of existing attainment methods?
Size of affected sources (area sources/potential to emit) and inventory of who is presently regulated.
Value of current and past strategies on air quality, i.e., NOx, MOU, I/M, ozone action days/ETR/and other attainment strategies.
Inventory of current emission sources (EPA/DEP)
What is the emission inventory—need percent by category.
What is the importance of various sources, i.e., mobile/stationary?
What are the impacts of off-road contributions and should these be regulated, i.e., lawnmowers, construction equip., area sources such as dry cleaner, etc.?

Clarifying Working Group's Mandate:

Will PA. be bound by working group proposed attainment strategies, if not, what weight will they be given?

Will we be authorized to evaluate assumptions that PA. has made, i.e., 100% credit for decentralized program and are there options for partial centralized I/M?
What role, if any, has the AWQTAC (Air/Water Quality Technical Advisory Committee) in our process?
Can different standards be used for diverse sources depending on where a precursor is generated?
Can working group make assumptions about boundaries and the quality of incoming air?
How can we address pollution originating outside of our region?
Why wasn't 15% & RFP SIP's submitted in 1994
What is the role of the Working Group in developing the SIP?
When is the standard to be achieved, is this group going to devise an attainment plan for 1999 or 2005? Need a time line for compliance.
As a group, are we looking for components that we all can agree on or a comprehensive management plan?
Who has the final say on I/M implementation, this working group or the I/M working group?
How far can the Stakeholders Working Group go, i.e., just ozone or other areas?

Modeling and Measurement:

Should modeling or trend analysis focus exclusively on the Phila. area or should it be more regional?
Modeling anomalies

OPTIONS AND STRATEGIES

Options:

Can we use the 1994 15% plan as a starting point?
List of attainment and maintenance strategies.
Inventory of attainment options to be employed during episodic events.
Do we know all of our options for controlling/testing emissions?
What ways can we meet attainment for 1996 & 2005 given the loss of centralized I&M and ETR?
What is the list of TCM's that DVRPC will have to adopt to meet mobile source side?
What is the role of public transit/ in contributing to attainment and reducing congestion.
What is affect of intelligent transportation systems (ITS) on ozone?
Use of mobility alternative strategies, i.e., mass transit, ride sharing, etc. and where have they been successful/failed?
What is the structure of inspection and maintenance program?
Older vehicle retirement.

Involvement of educational institutions in repairing older vehicles of low-income owners.
Incentives for alternative fuel programs.
What is the role of emissions trading programs in achieving attainment?
What is role that market driven strategies should play in SIP?
Incentive for reductions.
Incentive programs: such as credits and how to remove barriers to attainment.
How to use different incentive programs.
Incentive to encourage "buy in"/tax incentives to equalize burdens of compliance.
What is the future technology now in the pipeline?
Have we exhausted the potential for green manufacturing?
Explore voluntary and cooperative measures which can be taken in the community to reduce Ozone emissions.
How to make it worth while for people/companies to change their behavior.
Role of mandated and voluntary programs?

Option evaluation:

Benefits and costs:

Ranking options, i.e., cost effective/cost benefit analysis
Good criteria for evaluating alternative solution strategies, i.e., politically viable, practical, protective.
How can we measure benefits of TCM's(Trans-control measures) & test and repair options?

Health:

What are the health impacts of actions that we propose?
Health benefits...included in the cost/benefit analysis.

Economic:

What is the economic impact of actions that we propose?
How can we maximize emission reductions from area sources w/o putting small businesses out of business?
What are the costs to inspection and repair facilities under various options we will consider?
What are the predicted impacts of various control strategies to get to the 15% reductions.
What impact on current monitoring technology, i.e., BAR 90/Dynamometers, costs to parties doing inspections, are grants or low interest loans available to help service providers, new training/trainees needed, if yes, how and what are the costs?
When incentive programs should be used: attainment, maintenance, or both.
What is the status of evaluation of Ozone standards, i.e., legal implications? Legal climate: mandatory/voluntary

What are the costs of Ozone compliance vs. non-compliance?
Should all sectors participate in the solution?
Is there agreement about the criteria for what's acceptable to trade?

IMPLEMENTATION

Follow-through:

What are the available resources for implementation?
How to insure we meet the standards with actions beyond the control of the working group and how to account for it, i.e., within and outside PA.

Education:

Getting the word out: promoting ways to get behavioral change.
In communities that receive traded emissions-how to make selected strategies acceptable and fair.
Public Education: Commitment and Behavioral change.
How can we get the public to buy in to proposed solutions?
What should be the public education process in general and on bad air days?

Monitoring:

What kinds of monitoring is needed?
How many monitors are needed?
How can, or is there a need to, integrate data from monitoring along the eastern seaboard corridor?
Regional weather patterns
How does non-atmospheric impacts affect the results of monitoring?
Where should ozone monitors be located?

VII Logistics and Locations

The stakeholders will recommend locations for future meetings.

VIII. Next Steps - Process Advisory Committee, Data Advisory Committee,

The Process Advisory Committee was formed. Members include: Dennis Capella; Nancy Parks; Jack Weber; Patrick O'Neill; Mark Hammond.

The Data Advisory Committee was formed. Members include: Shirley Loveless; Larry Potts; Tony Ippolito; Tom Maslaney; Francine Carlini; Ned Griffith; and Joe Minott. Also to be included in the committee are observers Jack O'Neil and Wick Havens.

DAY 2:

I. Public Policy Negotiations - Context Setting.

Mike Hughes from CDR presented the principles and framework for the common problem-solving process. Stakeholders went into small groups to

generate a preliminary list of interests. The following is an edited, consolidated list: (The complete list can be found at the end of the meeting summary.)

PRELIMINARY LIST OF INTERESTS:

RESULTS
- Attain the health-based ozone standard.
- Solutions that work to clean the air.
- Strategies need to be formulated and implemented-make this meaningful.

SOLUTIONS SHOULD BE
- Practical.
- Environmentally sound.
- Realistic.
- Implementable.
- Rational.
- Efficient.
- Effective.
- Cost-effective.
- Technically sound.
- Flexible.
- Technologically innovative.
- Balanced.
- Market-based.
- Voluntary.
- Fair - Within the Region and Between Regions.

REGULATIONS SHOULD
- Be efficient.
- Blend command and control with voluntary and cooperative measures/incentives

HEALTH
- Assure public health.
- Lower public health costs and improve public health.
- Protect our health and our family's health.

POLLUTION PREVENTION
- Need to focus on preventative measures and proactive solutions as much as possible.

IMPLEMENTATION
- DEP resources need to be there in order to implement strategies to attain.
- Legislative acceptability.

BALANCE - ENVIRONMENT AND JOBS - HEALTH AND THE ECONOMY
- Need to balance health/safety and jobs in solution strategies.

Focus and balance public/industry points of view.
Achieve both health and economic viability.

ECONOMIC CONSIDERATIONS

Address impacts of solutions on small businesses.
Cost-effective inspections (service covers costs).
Solutions that do not have adverse impacts on the economy.
Reduce ozone-because of its adverse impacts on the economy.
Internalizing costs-full accounting of costs-uncover hidden incentives and subsidies.
Improve and maintain economic vitality of area.
Address pollution as an externality.

PUBLIC PERCEPTION - EDUCATION & MARKETING

Need a widely accepted populist mandate to make action necessary.
Want to eliminate a "we vs. them" mentality
Want problem to be seen as common problem.
Solution needs to be implementable and supported by public.
Want residents of inner city to have basic knowledge about ozone problem.
Public awareness of our process and legal constraints on state/EPA.
Need to market strategies so that public buys in to solutions (they need to have ownership).
Need to have consumers see value added when their cars pass the test (social as well as individual benefit).
Information, Education, and Outreach: Public Ownership of problems/solutions.
Raising awareness of source of problem.
Overcome "invisibility" of the problem.

TECHNOLOGY

We need to recognize technological changes in automobiles.
Need to reflect ongoing technological change in solutions.
Use current infrastructure or build incentives for new infrastructures to parallel the selected strategies.

CATEGORIES OF SOURCES = DIFFERENT STRATEGIES

Appropriate forum for solutions-local solutions for personal actions, multi-state for trans-state precursors.

MOBILITY

Prevent problems for customer whose car fails the test (they know they have to take the test, what test does, consequences, cost, and how to remedy situation if car fails test).
Promote personal responsibility.
Minimize impact on motorists.

INTERESTS-STAKEHOLDER PROCESS

Insulate stakeholder's work from political pressure.
Need to look at the universe of strategies to achieve goals.
We must gain a full understanding of the problem including past contributions to the ozone problem.
Solutions driven by what will clean the air.
Moving appropriately from step to step; more detailed refinement of process.
Take the larger view-consider regional interests, economic development, land use planning and air quality.

IN THE LIST OF INTERESTS WERE A FEW OPTIONS OR SOLUTIONS. THEY ARE:

- Increase use of generating facility without cost/increased rates or reduced profitability.
- Continue employee commuting where public transit is not available.
- Reformulated gas/solvents to be part of solution.
- Public transit: behavioral change, more ridership, need to increase public ridership.
- Increased NOx reduction from sources transported into our area.
- Less NOx reduction for stationary source-future as opposed to current standards in Phila. area.
- Use tech schools as part of the solution.
- Increase use of alternative fuel vehicles-electric/natural gas.
- Increase use of generating facility without cost/increased rates or reduced profitability.
- Road/congestion: peak hour pricing, tolls.

II. Collaborative Problem Solving.

Chris Moore presented an approach to interest-based negotiation and consensus decision-making.

IV. Meeting Evaluation and Next Steps.

The April Stakeholder meeting concluded with suggestions to improve subsequent meetings. Stakeholder suggestions included that the facilitators be more consistent and clear about the expectation of small working groups; that consideration of future meeting sites include the availability of more telephones and general agreement on the need to keep in close contact with the I/M working group. Also suggested was the need to give observers opportunity to speak.

The next meeting will be May 6 and 7 at a location to be determined.

Complete List of Issues - From Day 1

BACKGROUND DATA
How are we all going to all have the same knowledge base to address the problem and propose solutions.
Status: Where are we, where do we need to go?
History: How much has been reduced and by how much?
What is the ozone standard and how far are we from it?
How will the new EPA standard affect attainment?
What should be included in our SIP and what is in the SIP now, How much further do we have to go?
Contributions of other emission sources.
How as a group are we going to judge data which we are presented with and ask for?
What are current emission inventories for NOx and VOC's?

DATA - FOR OPTION EVALUATION
Ranking options, i.e., cost effective/cost benefit analysis
Good criteria for evaluating alternative solution strategies, i.e., politically viable, practical, protective.
What is the list of TCM's that DVRPC will have to adopt to meet mobile source side?
What is the current status of existing attainment methods?
What is the structure of inspection and maintenance program?
What are the available resources for implementation?
Size of affected sources (area sources/potential to emit) and inventory of who is presently regulated.
List of attainment and maintenance strategies.
What are the implementation details of NOx MOU?
Value of current and past strategies on air quality, i.e., NOx, MOU, I/M, ozone action days/ETR/and other attainment strategies.
What is the role of emissions trading programs in achieving attainment?
What is the future technology now in the pipeline?
Value of current and past attainment strategies on air quality (NOx/MOU, I/M)

SCIENCE
What is the chemistry of Ozone production and what is the role of NOx and VOC's in its formulation?
What is NOx/VOC interaction?
What scientific standards shall we use to judge reliability of scientific data?
What is the regional impact of ozone?

MONITORING
What kinds of monitoring is needed?
How many monitors are needed?
How can, or is there a need to, integrate data from monitoring along the eastern seaboard corridor?
Regional weather patterns

MODELING AND MEASUREMENT
Should modeling or trend analysis focus exclusively on the Phila. area or should it be more regional?
How will we demonstrate attainment, i.e., trend analysis, photochemical analysis, etc.
Measurement techniques: to know where we presently stand.
Modeling anomalies
How to insure we meet the standards with actions beyond the control of the working group and how to account for it, i.e., within and outside PA.
How can we measure benefits of TCM's(Trans-control measures) & test and repair options?
How does non-atmospheric impacts affect the results of monitoring?
Where should ozone monitors be located?
Health and Causality: When do you list a death as an environmental cause?

POLLUTION SOURCES
Inventory of current emission sources (EPA/DEP)
What is the emission inventory---need percent by category.
What is the importance of various sources, i.e., mobile/stationary?
What are the impacts of off-road contributions and should these be regulated, i.e., lawnmowers, construction equip., area sources such as dry cleaner, etc.?

OPTIONS AND STRATEGIES
Inventory of attainment options to be employed during episodic events.
Do we know all of our options for controlling/testing emissions?
What ways can we meet attainment for 1996 & 2005 given the loss of centralized I&M and ETR?
Why wasn't 15% & RFP SIP's submitted in 1994 and can we use that information here?
Have we exhausted the potential for green manufacturing?
What is the role of public transit/ in contributing to attainment and reducing congestion.
What is affect of intelligent transportation systems (ITS) on ozone?
Use of mobility alternative strategies, i.e., mass transit, ride sharing, etc. and where have they been successful/failed?
Explore voluntary and cooperative measures which can be taken in the community to reduce Ozone emissions.

ECONOMIC
What is the economic impact of actions that we propose?
What is role that market driven strategies should play in SIP?
How can we maximize emission reductions from area sources w/o putting small businesses out of business?
What are the costs to inspection and repair facilities under various options we will consider?
What are the predicted impacts of various control strategies to get to the 15% reductions.

What impact on current monitoring technology, i.e., BAR 90/Dynamometers, costs to parties doing inspections, are grants or low interest loans?
available to help service providers, new training/trainees needed, if yes, how and what are the costs?

EDUCATION
Getting the word out: promoting ways to get behavioral change.
In communities that receive traded emissions-how to make selected strategies acceptable and fair.
Public Education: Commitment and Behavioral change.
How can we get the public to buy in to proposed solutions?
What should be the public education process in general and on bad air days?

HEALTH
How important are the risks from ozone exposure compared to other risks, how much should be spent given these risks?
Quantification of health care costs.
What are the health impacts of actions that we propose?
Health benefits...included in the cost/benefit analysis.
Correlation between ozone episode and health impacts, i.e., heat, ozone, etc.

INCENTIVES
Incentive for reductions.
Incentive programs: such as credits and how to remove barriers to attainment.
How to use different incentive programs.
When incentive programs should be used: attainment, maintenance, or both.
Incentive to encourage "buy in"/tax incentives to equalize burdens of compliance.
Older vehicle retirement.
Involvement of educational institutions in repairing older vehicles of low-income owners.
Emission trading.
How to make it worth while for people/companies to change their behavior.
Incentives for alternative fuel programs.

MANDATE CLARIFICATION & PROCEDURES
Will PA. be bound by working group proposed attainment strategies, if not, what weight will they be given?
Will we be authorized to evaluate assumptions that PA. has made, i.e., 100% credit for decentralized program and are there options for partial centralized I/M?
What role, if any, has the AWQTAC (Air/Water Quality Technical Advisory Committee) in our process?
Can different standards be used for diverse sources depending on where a precursor is generated?
Can working group make assumptions about boundaries and the quality of incoming air?
How can we address pollution originating outside of our region?
What is the role of the Working Group in developing the SIP?

Is there agreement about the criteria for what's acceptable to trade?
When is the standard to be achieved, is this group going to devise an attainment plan for 1999 or 2005? Need a time line for compliance.
Is there a particular precursor that we should focus on over others, is one more important?
As a group, are we looking for components that we all can agree on or a comprehensive management plan?
Who has the final say on I/M implementation, this working group or the I/M working group?
How far can the Stakeholders Working Group go, i.e., just ozone or other areas?
Should all sectors participate in the solution?
Legal climate: Mandatory/Voluntary
What is the status of evaluation of Ozone standards, i.e., legal implications?
What are the costs of Ozone compliance vs. non-compliance?
Role of mandated and voluntary programs?

Complete List of Interests - From Day 2

RESULTS & GOALS
Goal is to attain the ozone standard, any regional DEP resources need to be there in order to implement strategies to attain.
Goals should be solution based, solutions should be realistic and implementable.
Want solutions that work to clean air.
Clean air to meet health standards and assure public health.
Moving appropriately from step to step; more detailed refinement of process.
Substance over process: focus on results, cleaner air.
Need a widely accepted populist mandate to make action necessary

NATURE OF REGULATION
Reduce top down regulations.
Replacing/supplementing command and control with voluntary and cooperative measures/incentives.
Command and control syndrome: regulations that are detached from improved air quality.
Ways to increase efficiency of regulations.
Strategies should be market based, voluntary, flexible.
We would like to focus on preventative measures and proactive solutions as much as possible.
Legislative acceptability.
Need to balance health/safety and jobs in solution strategies.

PROCESS INTERESTS
Rational solutions.
Attainment of environmental goals through efficient and effective strategies.

Reach sound technical solutions with technical community people involved in the stakeholder process.
Protect stakeholder process from politics. Separate politics from the problem.
25 years is too long to discuss-strategies need to be formulated and implemented-make this a meaningful exercise.
Adopt wide range of strategies, should be cost effective with local systems.
Need to look at the universe of strategies to achieve goals.
Voluntary measures with state and fed.
Allocation of limited resources.
We must gain a full understanding of the problem including past contributions to the ozone problem.
Don't let mandates drive the problem/solution.

ECONOMIC CONSIDERATIONS
Managing adverse impacts of solutions on small businesses.
Having machinery to do inspections be cost effective (service covers costs).
We want to have solutions that do not have adverse impacts on the economy.
Reduce ozone-because of its adverse impacts on the economy.
Solution strategies should be market based, flexible, cost effective and meet the commercial interests of Stakeholders.
Internalizing costs-full accounting of costs-uncover hidden incentives and subsidies.
Improve and maintain economic vitality of area.
Need to decide who should pay for what?
Pollution as an externality.
Consider regional interests, economic development, land use planning and air quality.
Increase use of generating facility without cost/increased rates or reduced profitability.
Want to be able to continue employee commuting where public transit is not available.
Focus and balance public/industry points of view.
Public transit: behavioral change, more ridership, need to increase public ridership.
Less NOx reduction for stationary source-future as opposed to current standards in Phila. area.

PUBLIC EDUCATION & MARKETING
Want to eliminate a "we vs. them" mentality/want problem to be seen as common problem.
Solution needs to be implementable and supported by public.
We need to recognize technology changes in automobiles that may outdate dynamometers (more new cars that exist, less emissions).
Want residents of inner city to have basic knowledge about ozone problem.
People need to learn about our process and legal constraints on state/EPA.
How to "market" strategies so that public buys in to solutions (they need to have ownership).
Need to have consumers see value added when their cars pass the test (social as well as individual benefit).

Information, Education, and Outreach: Public Ownership of problems/solutions.
Raising awareness of source of problem.
Overcome "invisibility" of the problem.

HEALTH INTERESTS
Keep health basis out front.
We want to lower public health costs and improve public health.
Achieve a balance between health standards and economics.
Achieve both health and economic viability.
Personal interest-our health and our family's.

TECHNOLOGICAL INTERESTS
Want reformulated gas/solvents to be part of solution.
Flexibility if solution is stationary focused (trading, crediting, etc.).
Need to reflect ongoing technological change in solutions.
Focus on implementation and implementability.
Innovative technology, production measures.
Training and teaching.

MOBILITY
Strategies should be balanced and should be implementable using current infrastructure (or build incentives for new infrastructures to parallel strategies).
Consider using tech schools as part of the solution.
Avoid problems with customers when their car fails the test (they know they have to take the test, what test does, consequences, cost, and how to remedy situation if car fails test).
Personal responsibility.
Minimal further impact on motorists.
Increase use of alternative fuel vehicles-electric/natural gas.
Indirect car-user subsidies are unacknowledged.
Road/congestion: peak hour pricing, tolls.

CATEGORIES OF SOURCES/DIFFERING STRATEGIES & INTERESTS
Appropriate forum for solutions (local for personal actions; multi state for trans-state precursors).

OZONE TRANSPORT INTERESTS
Shared responsibility, solutions should be fair-beyond region.
Increased NOx reduction from sources transported into our area.

SOUTHEAST PENNSYLVANIA OZONE STAKEHOLDER WORKING GROUP
Final Meeting Summary
May 6-7, 1996, Center City, Philadelphia

Background and Data Presentations

Day 1—Morning Session:

I. Revisiting the Mandate—Jim Rue, Deputy Secretary, DEP

Jim Rue opened the meeting by reiterating his acceptance of the objectives of the Working Group as stated in the revised operating agreement. He also stated that recommendations from the Working Group for attainment of the ozone standard, to the extent that they are legal and solve the problem, will be taken seriously by DEP; and, if DEP joins in a consensus recommendation, DEP will act on the recommendation. He stated that a working assumption for any proposed solutions by the Working Group must be that the state will not be involved with a centralized I/M plan. At the same time, he pointed out that the attainment problem may present business opportunities, and that the market can drive solutions beyond those formed by the Working Group.

II. Review of April 1 & 2 Meeting Summary, Protocol Revisions and Schedule

The Stakeholders approved the April 1 & 2 meeting summary and agreed that it be made available for distribution.

The Operating Agreement was accepted as revised after debate over "cost-effective" being included in the Agreements statement of purpose (see amended Operating Agreements). Consensus was formed that this term be considered as a criteria for the evaluation of proposed strategies and should therefore not be included in the purpose statement. Other revisions included expanding the role of the data advisory committee to review and reconcile conflicting information presented to the Working Group. The Working Group also agreed to fill the vacancy left by Norman Childs, preferably with a representative of the American Lung Association on the state level.

Stakeholders approved the dates for future meetings.

III. Data Presentations

Topic 1: What is Ground-Level Ozone?—Marcia Spink, EPA

Marcia Spink outlined the differences between stratospheric ozone and ground-level ozone, noting that it is ground-level ozone which has been linked to several acute and chronic health effects. Among the health effects she noted were an accelerated aging process, some evidence of a weakening of the body's immune system, and less elasticity in the lungs, particularly in children and in those with existing respiratory problems. She stated that the negative health effects of ground-level ozone are generally accepted in the scientific community. She went on to present the problems

ground-level ozone posed to the environment, noting that while primary ozone standards have been established for human health, certain plants may be suseptible to ozone at a lower level.

Afternoon Session:

Topic 2: History and Context of the Federal Clean Air Act—Marcia Spink, EPA

Noting that ground-level ozone forms when VOC's combine with NOx in sunlight and heat, Marcia Spink reviewed the history and objectives of the Federal Clean Air Act and the EPA's role in its enforcement. She explained that the EPA uses a statistical approach to measuring ground-level ozone exceedances. She noted that EPA is considering a change in the ozone standard because of concerns about the potential for health impacts at lower levels.

Marcia proceeded to discuss the purpose and rationale behind the Federal Clean Air Act and its amendments, stating that the amendments are very prescriptive about the requirements for severe non-attainment areas in demonstrating measurable progress toward achieving and maintaining the attainment goals. The Philadelphia-Trenton-Wilmington metropolitan statistical area is currently classified as a severe non-attainment area by EPA she noted, adding that in the absence of a state implementation plan (SIP) which demonstrates measurable progress toward attainment, federal sanctions automatically start to cut off federal highway funds. She stated that the current Pennsylvania SIP fails to demonstrate attainment for the year 2005, adding that the assumption is that Pennsylvania will have to implement additional measures to come into compliance.

Topic 3: Air Quality Planning and Modeling—Wick Havens, DEP

Wick Havens presented a conceptual framework for Air Quality Planning wherein the goals are set by the EPA and the states decide appropriate attainment strategies. He stated that because the chemical process that produces ground-level ozone is atmospheric, modeling the benefits from particular strategies is difficult.

He noted that the amendments to the Federal Clean Air Act make it clear that the Philadelphia-Trenton-Wilmington metropolitan statistical area is responsible—as a whole—for demonstrating attainment, and that each state is required—individually—to submit an implementation plan. Attainment strategies in this area may have to reach a 75% reduction in NOx emissions and a 50% reduction in VOC emissions. He further stated that input requirements for modeling attainment strategies must be quantifiable.

The presentation generated considerable discussion among the stakeholders over the issue of ozone transport.

Topic 4: Implementing Agencies, Roles and Responsibilities—Jim Rue, Deputy Secretary, DEP

Jim Rue reviewed the roles of OTAG and the OTC in addressing ozone transport issues. Outlining the troubled past of both efforts, he noted that OTAG is a voluntary effort, encompassing all states east of the Rocky Mountains, which aims at controlling the precursors to ground-level ozone, while the OTC is officially charged with those issues which extend beyond state boundaries.

Topic 5: History of PA Actions to Implement the Clean Air Act—Wick Havens, Pennsylvania DEP and Bob Ostrowski, Air Management Systems

The speakers presented an historical overview of Southeast Pennsylvania attainment strategies, noting that these efforts centered on VOC controls, including storage tanks, loading facilities, water separators and ethylene production with the 1970 Clean Air Act Amendments and have evolved to include a wide variety of attainment strategies which target stationary, area and mobile sources.

Day 2—Morning Session:

Stakeholder Martha Anderson, Thomas Jefferson Hospital, who was not in attendance at the April meeting and a new Stakeholder Rosalind Johnson, Northeast Philadelphia Empowerment Zone and Sea Change, introduced themselves to the Working Group.

III. Data Presentations (continued)

Topic 6: Current Ozone Measurements in Southeastern PA—Jim Wilson, E.H. Pechan & Associates, Inc.

Jim Wilson presented the current status of measured ozone in the 5-county Philadelphia metropolitan area, stating that the average number of exceedances from all monitoring stations is 3.3 days per year and the average number of expected exceedances is 3.5. He noted that current law requires these values be less than 1 for each monitoring station. Stakeholders highlighted two points from these figures and the resulting discussion: (1) that the average number of expected exceedances per year has been significantly reduced (from 8.8 during the 1987-1989 period of evaluation) and, (2) the magnitude of these exceedances has been reduced as well, indicating that, while the region is not in attainment, the region has made significant progress toward achieving the standard.

Afternoon Session:

Topic 7: Regional Aspects of Monitoring and Modeling—Wick Havens, DEP

Wick Havens addressed concerns from the Stakeholders over emissions which originate beyond the 5-county non-attainment area, particularly those generated from outside the state. Jim Rue added to the discussion that each state is responsible for its own SIP which demonstrates attainment and maintenance of the ozone standard.

After a video presentation of measured ozone and its transport for the East coast, Wick Havens noted that ground-level ozone is a regional problem composed of contributions from both local and regional sources. He added that it is difficult to separate the respective contributions of each, concluding that the highest concentrations of ground-level ozone tend to be found downwind of those areas with the highest emissions.

Topic 8: Inventories and Major Stationary Sources: Jim Wilson, E.H. Pechan & Associates, Inc.

Jim Wilson presented data on emission inventories measured in 1990 for NOx and VOC emissions by state and county and by category. Emission categories consist of point, area, biogenic, highway and off-road sources. The stakeholders requested more detailed descriptions and allocations within each emission category and projections for each category for 1996 and 2005.

IV. Next Steps and Meeting Evaluation

To prepare for the next meeting, the stakeholders raised questions prompted by these two days of presentation and discussion. The stakeholders referred the questions to the data advisory committee. The list of questions follows.

The stakeholders discussed public involvement, established a public involvement committee, and requested that the committee develop a public involvement proposal for full-group consideration. The public involvement committee will include Patrick, Nancy, Rosalind, Robin, Margaret from the stakeholders and non-member Clark Rupert from the DEP Regional Office public affairs staff.

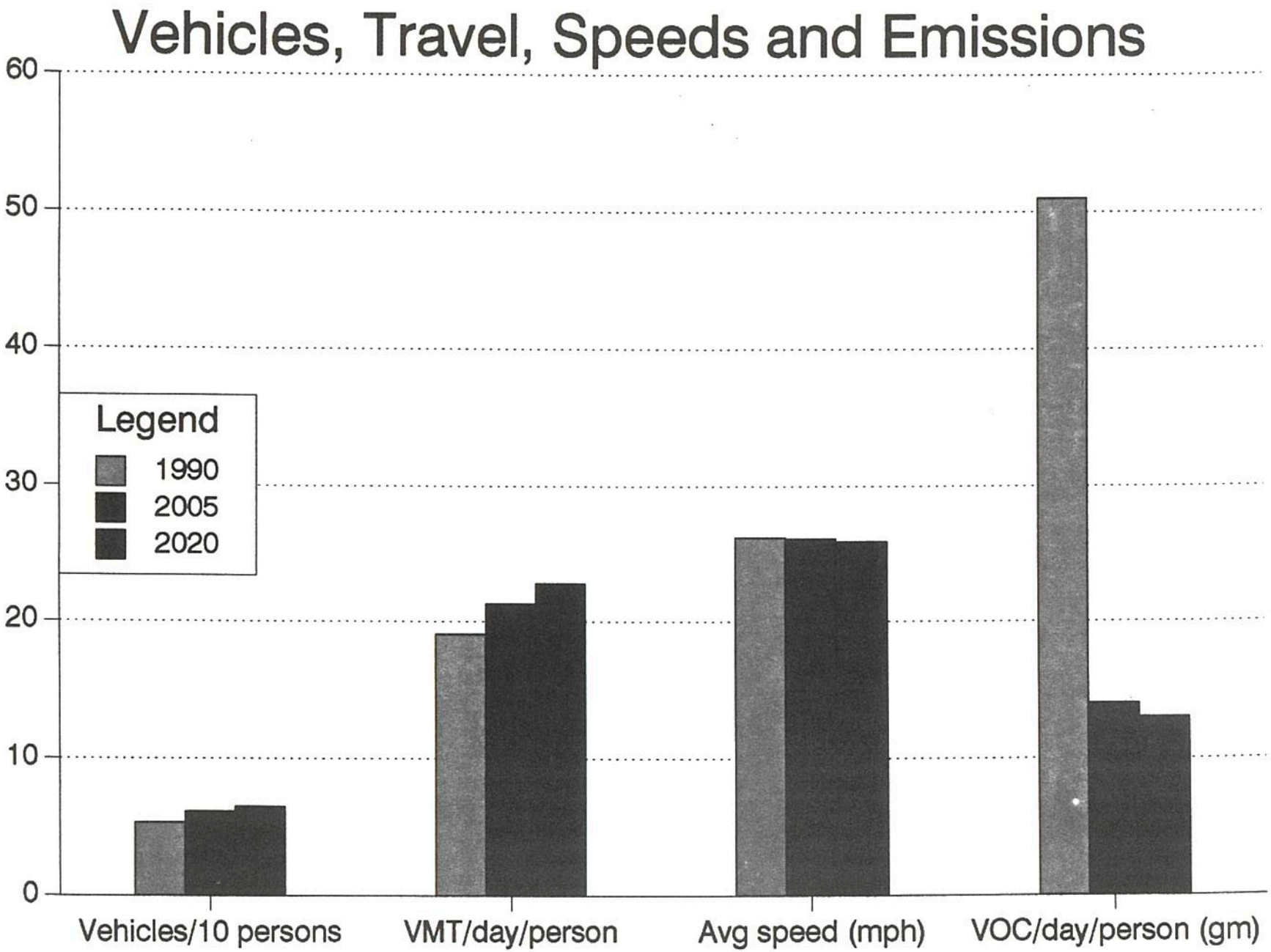
The May 6 & 7 Stakeholder meeting concluded with suggestions to improve subsequent meetings. Suggested areas for improvement including that double-sided name plates be provided; that the meetings spend less time reviewing previous meetings, and that Stakeholders make an attempt to sit next to different people from meeting to meeting. To facilitate a faster start, stakeholders decided that attending members read and review meeting summaries prior to the meetings. Stakeholders also requested a glossary of acronyms as well as a list of the URL's for the EPA and DEP's web site (following).

DEP Home page: http://www.dep.state.pa.us/default.htm

DEP PA Stakeholder Group: http://www.dep.state.pa.us/dep/subject/involved/air/neg_comm_air.htm

EPA: http://www.epa.gov/

THE NEXT MEETING WILL BE MAY 30 AND 31, 1996, AT THE HOLIDAY INN, 4TH AND ARCH, CENTER CITY, PHILADELPHIA.


Vehicles, Travel, Speeds and Emissions
60
50
40
30
20
10
0
Legend
1990
2005
2020
Vehicles/10 persons
VMT/day/person
Avg speed (mph)
VOC/day/person (gm)

Draft Meeting Summary

SOUTHWESTERN PENNSYLVANIA OZONE STAKEHOLDERS WORKING GROUP
APRIL 22-23, 1996

LOCATION: Best Western Hotel, Parkway Center, Pittsburgh, PA

FACILITATORS: Mary Davis Hamlin, CDR Associates
Craig Coletta, CDR Associates
Bob Piel, Pennsylvania DOT

ATTENDANCE: Peter Bauer, Perry Bissell, Gary Brandenberger, Lisa Burke, Fred Harchelroad, Jack Haver, Bob Johns, Jim Kantzes, Paul King, Harry Klodowski, Bob Kochanowski (& Chuck Imbrogno), Jim Knox, Regina Lasek, Anne Martin, Harold Miller, Audrey Miner, Rudy Molner, Charles Muetzel, Joe Pezze, Joe Piernock, Jim Salvaggio, Sue Seppi, Betty Serian, Marilyn Skolnick, Marcia Spink, Roger Westman, Davitt Woodwell, Letitia Worley.

DAY ONE
APRIL 22, 1996
8:00 AM - 4:00 PM

I. WELCOME/AGENDA REVIEW

II. OUTCOMES/GOALS

CDR reviewed the following goals for the April meeting:

- To develop a common level of understanding around the formation, effects, regulatory and legislative contexts, and monitored levels of O3 in southwestern PA.
- To address ongoing questions regarding Working Group operating protocols, timeline, and March meeting summary.
- To establish a Public Education Advisory Committee and clarify Working Group's public contact mechanisms.
- To review, clarify, and amend the DAC's initial proposal and timeline for securing Working Group's data needs.
- To update the Working Group regarding the proposed August 15 submission deadline for a SWPA SIP and to clarify the implications of this process for the Working Group.

III. REPORT FROM DAC

Chuck Imbrogno (SPRPC) presented for the Working Group's review a proposal from the April 10 DAC meeting which outlines their initial recommendations regarding data. Suggestions or concerns regarding the proposal should be brought to the attention of a member of the DAC or CDR. Due to time pressures, the DAC set the April agenda and arranged for the initial presentations.

IV. CLARIFICATION OF WORKING GROUP'S LINK WITH COMSIS

The Commonwealth's contract for technical assistance is currently with COMSIS which can provide subcontractors to address particular data needs (a handout was provided describing COMSIS and subcontractors). Because the state procurement requirements are too lengthy to work within the Working Group's timeframe, the Working Group will need to use COMSIS for technical assistance. Other resources can be brought in by individual stakeholder groups.

A budget of approximately $450,000 has been set aside for the SWPA Working Group's technical assistance needs.

The Commonwealth procedures require that the DOT (or DEP) be the contact point between the Working Group and COMSIS.

Some Working Group members expressed the need to have an additional DAC member also in contact with COMSIS in order to ensure clear communication regarding the nature and intent of Working Group's information requests. The DAC met and proposed the following:

> A COMSIS representative will attend the next DAC meeting in person to clarify roles and expectations. The DAC will generate data requests for COMSIS to fill. In the future, COMSIS will either attend DAC meetings, be linked via telephone, or the DOT contact person with an additional member of the DAC will liaison with COMSIS to communicate and clarify data needs.

V. DATA PRESENTATIONS

The intent of the initial presentations were to provide general background data to the Working Group. The focus was on educating, not advocating, for a particular perspective. In certain topic areas a range of perspectives may be necessary.

1. WHAT IS OZONE AND WHAT ARE ITS EFFECTS?

   A. O3 Formation

   Presentation Highlights:
   Marcia Spink (EPA) explained the basic chemistry of O3 formation. O3 is formed by the combination of heat, sunlight, Volatile Organic Compounds (VOC) and NOx. Sources of O3 do not directly emit O3, but emit VOC and NOx (precursors). Control strategies assume that a reduction of precursors leads to a reduction of

O3. The chemistry is extremely complicated and the Working Group will explore the chemistry further, as appropriate, as negotiations proceed.

B. Health Effects of O3

Dr. Fred Harchelroad presented on the health effects of exposure to O3. This information is presented in detail in the handout, "Ozone" by Michael Lipsett.

C. Ecological Effects of O3 and Health-Based Standard

Presentation Highlights:

Spink (EPA) described the effects of O3 on non-human elements of the environment. Highlights of her presentation include:

- O3 exposure causes $2-4 million damage to crops and forests per year
- O3 and acid rain have a synergistic relationship
- Rodent studies indicate a possible impairment of immune systems due to chronic O3 exposure
- O3 exposure causes dry rot and degrades rubber

Additional Information:

Spink will bring additional information to the Working Group regarding ecological impacts.

D. Health Based Standard (hbs)

Presentation Highlights:

Spink discussed the health-based standard. The HBS is set at .12 ppm. Monitoring figures are generated by averaging O3 monitor readings over the course of one hour. It was noted that this standard is the level at which a healthy, typical adult begins to feel the effects of O3 exposure. As yet, no secondary standard has been set because ambient O3 levels are nearly as high as anthropogenic levels.

EPA may revise its HBS to .8 ppm averaged over an eight hour period. Proposed standard revisions are peer reviewed by the National Science Advisory Board (NSAB) before being adopted. It was noted by one member that a .8 ppm/eight hour standard would be somewhat more stringent than the current HBS in registering exceedances.

E. American Lung Association

Blake Early of the National American Lung Association presented further information on the health effects of O3 exposure. This information is presented in greater details in the following handouts: "Out of Breath"; "Protection for Sensitive Populations"; "A Snapshot of Six Air Pollutants"; "Question and Answers About the Clean Air Act: Exploding Some Myths"; and "Endnotes."

Additional Information:

The health effects of VOC and NOx not combined into O3—Spink will research.

Early will provide additional studies to the Working Group as they become available.

2. CONCEPTUAL FRAMEWORK OF MONITORING AND REGULATION

Wick Havens (DEP) presented the process undertaken for ozone planning and management. This information is presented in detail in the handout entitled "Air Resource Management: A Conceptual Framework for Air Quality Planning."

Discussion Highlights:

No modeling has been done for SWPA because DEP had anticipated the redesignation of the region. The Working Group will have a significant role in determining and informing needed modeling efforts.

3. LEGISLATIVE AND REGULATORY CONTEXT

A. EPA

Presentation Highlights:

EPA described the two sections of the Federal Clean Air Act for which the agency is responsible overseeing.

Title I of the CAA addresses national ambient air quality standards and attainment designations— including the mandatory regulations and sanctions for areas found to be out of attainment. This is the section of the CAA which primarily informs the Working Group's deliberations.

Title II of the CAA addresses Federal mobile source issues (i.e., vehicle emissions).

Additional Information:

Spink will provide "Small Business Primer on the CAA."

B. Ozone Transport Commission (otc)

Jim Salvaggio (DEP) presented regarding the OTC. This information is presented in detail in the handout entitled, "What is the Ozone Transport Commission."

Discussion Highlights:

A petition to remove SWPA from the OTR was submitted to the EPA administrator in 1995 but was unsuccessful. The concerns of some members regarding transport, and the equity implications of Pennsylvania being in the OTC (when

neighboring states are not) were preliminarily discussed. More detailed discussion of these issues will be folded into future deliberations.

C. Ozone Transport Assessment Group (OTAG)

Joe Pezze (DEP) described the structure and purpose of OTAG. This information is presented in the handouts entitled: "Ozone Transport Assessment Group."

Discussion Highlights:

OTAG is currently running the UAM V model for several control strategies and meteorological events in SWPA. Preliminary results will be available to the Working Group in September or October.

D. Allegheny County Health Department

Roger Westman (Allegheny County Health Department) presented regarding the role and responsibilities of the Allegheny County Health Department. This information is presented in the handout entitled: "Allegheny County Health Department Bureau of Environmental Control."

E. DEP

DEP described its roles and responsibilities regarding the CAA and its relationship with other regulatory agencies.

Presentation Highlights:

The Pennsylvania Pollution Control Act gives DEP authority for SIP submissions to EPA, however DEP is required to collaborate with DOT on issues jointly affecting air quality and transportation. DEP is advised in its proceedings by a Citizens Advisory Council, a Small Business Advisory Council, and an Agricultural Advisory Council.

F. EPA

Additional comments regarding EPA's roles and responsibilities with regard to the Clean Air Act.

Presentation Highlights:

EPA noted that once a SIP is submitted, the agency must rule on its completeness within 60 days. If the SIP is found to be incomplete, a sanction clock begins running. If after 18 months the SIP is incomplete, two for one offset sanctions are applied to the state that submitted the incomplete SIP. If after six additional months the SIP is still incomplete, federal highway fund sanctions are applied. Following these sanctions, in the absence of a completed SIP, the EPA can issue a Federal Implementation Plan (FIP) to function within the state in lieu of the SIP. Once the sanction clock has begun, only a completeness ruling on the SIP halts its progress.

G. Southwestern PA Regional Planning Commission (SPRPC)

Chuck Imbrogno presented information on SPRPC. This information is presented in the handout entitled "Transportation Conformity: Overview of Federal Regulations."

Discussion Highlights:

Concerns were expressed by some members regarding the reliability of modeling used for transportation studies and conformity plans—specifically the automotive VOC emissions data. Further discussion regarding the specific information provided by the models and their degree of accuracy will be folded into future deliberations.

H. Penn DOT

Audrey Miner described the responsibilities of DOT in O3 issues.

Presentation Highlights:

DOT has formed an Inspection and Maintenance Working Group to address issues of implementation of new I/M strategies. DOT collaborates with DEP on air quality issues that also affect transportation.

I. Additional Regulatory Processes

The PAC will monitor and distribute information about ongoing regulatory processes which do not directly address O3 issues but which might have some bearing on the Working Group's deliberations.

4. PENNSYLVANIA ACTIONS REGULATING O3 TO DATE

DEP presented a brief overview of CAA developments and Pennsylvania responses from 1970—present.

1970 CAA (1/27/72, PA)
VOC component for Philadelphia, Pittsburgh, larger stationary sources

1977 CAAA (4/24/79, PA)
New Source Review permitting a new precursor source begin operation if it could offset its own emissions; I/M; Group I CTGS, TCMs

1981 CAAA (2/23/82, PA)
Group II+III

1990 CAAA
10/90 VOC defined/NOx MOU
8/91 RACT fixups, Stage I vapor recovery controls
1/94 Generic RACT

11/94 NSR expanded to include NOx as well as VOC
{3/92} Stage II adopted as amendment to state air acts, currently suspended.

DAY TWO
APRIL 23, 1996
8:00 AM - 12:00 PM

I. AGENDA REVIEW

II. DATA PRESENTATIONS

A. MEASURED O3 LEVELS TO DATE IN SWPA

Maureen Mullen of Pechan Environmental (a subcontractor to COMSIS) presented the Working Group with information regarding the monitoring of levels in SWPA. This information is presented in a handout entitled (E.H. Pechan).

Discussion Highlights:

Questions were raised by some members about the criteria for siting monitors in SWPA and about the accuracy of monitoring O3 production and transport from neighboring states. Some members were concerned that the location of monitors could generate misleading information about O3 levels in SWPA. Some members expressed concern that the number of monitors in a region directly affect the likelihood of registering exceedances in that region.

Additional Information:

EPA offered to supply the Working Group with information regarding siting criteria, overall monitoring strategies, and monitor evaluations. The group decided to not invite an EPA monitoring specialist to speak to the group.

EPA has recently produced a telecourse about placement and use of O3 monitors and the course is available to interested WG members through DEP.

III. UPDATE ON PROPOSED AUGUST 15 SIP DEADLINE AND IMPLICATIONS

The Working Group discussed EPA's requirements for making a completeness ruling on the PA SIP. The proposed deadline before first level sanctions take effect is August 15. At present, the Commonwealth has submitted its 15% VOC reduction plan and a detailing of regulations (including new source review) to the EPA; only the Commonwealth's attainment demonstration remains outstanding.

The EPA has in place a waiver policy that revises requirements to areas classified as non-attainment areas but that are appearing to demonstrate attainment. The exceedances in the Summer of '95 forced the EPA to revoke the waiver. DEP expressed a desire that EPA would forego the proposed August 15 deadline in favor of a demonstration of good faith effort by the Commonwealth (via the Working Group) to

develop its remaining SIP submissions. DEP suggested that a series of benchmarks might be drafted and relayed to EPA in order to monitor the Working Group's progress.

EPA is currently being sued regarding the EPA waiver policy and its application in SWPA. The Working Group discussed the possibility of drafting a letter to the Sierra Club asking the organization to forestall its legal actions for several months in order to allow the Working Group to address its purpose without worrying about the August 15 deadline. Some members indicated their concerns that drafting such a letter might add an unnecessary task, outside the group's stated purpose, to an already time pressured process. Also, it was mentioned that considerable discussions with the litigants regarding this have already taken place. Some members suggested that the most appropriate action for the group to take regarding the litigation would be to move as quickly as possible towards making reasoned recommendations to DEP. The Working Group agreed not to draft a group letter.

DEP indicated that it did not wish to undercut or constrain the efforts of the Working Group by submitting an SIP not informed by the Working Group's deliberations, but also indicated that if faced with sanctions, it might have to take any necessary actions to avoid them.

(An April 16 dated letter to Jim Salvaggio from Tom Maslany was distributed to the Working Group.)

IV. REVIEW OF DRAFT PROTOCOLS AND DRAFT MARCH MEETING SUMMARY

The group reviewed, discussed, and finalized the draft protocols and draft meeting summary for the March meeting. Revisions are included in the documents.

The group expressed concern that future summaries not give the impression that perspectives held by some members are held by the Working Group as a whole.

The group agreed that draft summaries should be considered drafts until accepted as complete and accurate by the Working Group as a whole.

V. PRESS RELEASE

Because the majority of the April meeting was devoted to data presentations, the Working Group agreed not to draft a press release.

VI. CREATION OF A PUBLIC EDUCATION ADVISORY COMMITTEE

The Public Education Advisory Committee (PEAC) will be responsible for proposing a public education process for the Working Group. PEAC members are: Joe Piernock, Betsy Malleson (DEP), Gary Brandenberger, Marilyn Skolnick, Anne Martin, Sue Seppi, and Peter Kroll.

The DEP offered to provide the mechanism for press releases and to serve as a contact point. DEP explained that it would report to the press only what it was instructed to by

the group and would serve only as a touchstone for public contact such as providing the on-going mailing lists and other general logistical information about the Working Group.

VII. SCHEDULING OF FUTURE MEETINGS

Attempting to balance the need for adequate meeting time with the transportation needs of Working Group members, the May meeting will be held from 9 AM - 5 PM on Day One and from 8 AM - 4 PM on Day Two.

VIII. MEETING EVALUATION

Members evaluated the April meeting. Concerns were limited to the physical logistics and comfort of the meetings (a need for larger tables, different rooms, non-sugary food).

APPENDIX A: INFORMATION FOLLOW-UP SUMMARY

- Information regarding ecological impacts (Marcia Spink).
- EPA primer on the Clean Air Act for small businesses (Marcia Spink).
- Overview/timeline of SIP process (Marcia Spink).
- Audit of SWPA O3 Monitor siting (Marcia Spink).
- Copy of CFR (Marcia Spink).
- Various information re: site selection criteria for O3 monitors (Marcia Spink).
- Information about whether or not SWPA transport monitors are included in SWPA's monitoring network (Marcia Spink).
- Street map of SWPA O3 monitor sites (Pechan).
- Meteorology data/analysis of 1995 Summer (Wick Havens).
- Sanction Information (Audrey Miner).
- Other areas experiencing revocation of waiver (Marcia Spink).
- EPA lawsuit—complaint and responses (Marcia Spink).
- Health effects of VOC's and NOx not combined into O3 (Marcia Spink).
- Additional American Lung Association Studies—as available (Blake Early).
- Relationship between control strategies' effectiveness with one hour versus eight hour measurement times. (BIN)

SOUTHEAST PENNSYLVANIA OZONE STAKEHOLDER WORKING GROUP
Final Meeting Summary
May 30 & 31, 1996

9:00 A.M. - 4:00 P.M., Holiday Inn, 4th & Arch, Center City, Philadelphia

Day 1
Morning Session:

I. Overview of Relevant Current Events, Jim Rue, Deputy Secretary, DEP.

Jim Rue opened the meeting with a brief review of current events relevant to the Stakeholders, which included the opening of the Ozone Action Days in Philadelphia on May 20. He also announced that a settlement had been reached in the law suit against the EPA by the Clean Air Council, noting that this settlement was an example of the private sector and government working together to find solutions. He also mentioned the progress of OTAG (Ozone Transport Advisory Group), in focusing on ozone reductions, particularly in NOx, in the 37 state region. He referred to Governor Ridge's call for a move away from an incremental approach to precursor reductions. Jim proceeded to discuss the role of FERC (Federal Energy Regulatory Commission), and its recent proposals for deregulating the electric power grid throughout the country. Noting the possibility of the adverse environmental effects from deregulation due to the potential for increased NOx emissions, he stated DEP's position that the President's Council on Environmental Quality (CEQ) should assess the deregulation's environmental impact.

He concluded by stating that there has been good movement on the national front to control both NOx emissions and transport issues to help the Stakeholders with their mandate.

II. Review of May 6 & 7 Meeting Summary, Schedule and Announcements.

Mike Hughes asked Stakeholders to recommit to the ground rules in the Operating Agreement, particularly requesting that at this stage in the process Stakeholders focus on educating rather then advocating particular positions.

The Stakeholders approved the May 6 & 7 meeting summary and agreed that it be made available for distribution.

III. Emission Inventories.

Topic 1: Ozone Precursor Emission Inventories: Jim Wilson, E.H. Pechan & Associates

Jim Wilson started with a presentation of emission inventories for the Philadelphia-Wilmington-Trenton non-attainment area and surrounding states using data from the 1990 Ozone Transport Assessment Group data base. Emission inventories from 1990 were then compared to VOC and NOx emission projections for the five county Pennsylvania portion of the non-attainment area by point, area, non-road engine vehicles and highway sources. The discussion that followed centered on the discrepancies between the 1990 data and the emission projections for 1996 and 2005. Jim stated that the estimates were from different databases each designed for different purposes. Furthermore, projected reductions summarized for 1996 and 2005 were offset by growth factors and should not correlate exactly.

To this discussion, Jim Rue added that an inherent level of uncertainty exists in the modeling and resulting projections generated from it. Because of this uncertainty, the approach taken by DEP was to provide the Stakeholders with all available data and to let them decide as a group the appropriate working assumptions behind selected attainment strategies. Wick Havens added that one of the problems in modeling ozone is the meteorology which plays a role in its formulation. He also stated that emissions and ozone are not correlated one to one--further adding to the problem of modeling. From the discussion that followed, Stakeholders expressed the desire for a single set of emission estimates through the year 2005.

Afternoon Session:

IV. Emissions Control Strategies from Neighboring States.

Topic 1: New Jersey: Chris Salmi, New Jersey DEP.

Chris Salmi presented an overview of clean air act implementation strategies for New Jersey in dealing with its non attainment areas. These efforts include a combination of federal measures, stationary and mobile source measures, and attainment planning. Federal measures include Tier 1 motor vehicle standards, a program using reformulated gasoline for the entire state, and proposed regulations for consumer products (aerosols, deodorants etc.) AIMS coatings, auto body refinishing and off-highway emissions sources. The state's efforts to reduce stationary emissions include New Source Review, VOC and NOx RACT (Reasonable Available Control Technologies), operating permits, OTC NOx MOU, an open market trading program and rules for consumer products. New Jersey's mobile source strategies incorporate a hybrid state administered and private sector I/M program, a clean fleet program, transportation control measures coupled with employer trip reduction and an OTC LEV program. Attainment planning in the state focuses on reductions in localized VOC peak values and regional NOx reductions to meet the health standard. The states attainment plan follows a two phase approach with revised attainment demonstration due by mid 1997.

He concluded by stating without a high-enhanced I&M program, New Jersey will not be able to meet the 1996 EPA standards. These standards can be reached by 1999.

Topic 2: Maryland: Diane Franks, Maryland DEP.

Diane Franks presented a history of Maryland's early efforts to come into compliance with the Federal Clean Air Act and its Amendments. She noted several implementation problems with the submitted 15% reduction plan, including an unprepared public for a move to Enhanced I/M, the lack of neighboring states implementation of CAA required measures, delays in both the enforcement of federal rules and the state legislature in starting the Enhanced VEIP. As a result, the state developed an interim program which incorporates a basic idle test, requests for voluntary IM240 tests for private vehicles and requires IM240 testing for state fleets. Evaporative (purge and pressure) tests were delayed because of public concern. As a confidence building measure, Maryland formed Stakeholder groups to select an I/M program and preferred attainment strategies. Selected measures from the group included voluntary measures such as Ozone Action Days and outreach programs to increase public awareness and a hybrid I/M program with centralized testing and decentralized repair.

Maryland's VEIP plans for the coming year are limited to non-intrusive measures as a result of public reaction. These measures include improving customer service and VEIP stations, improving public outreach, encouraging more IM240 volunteers, initiation of non-intrusive gas cap check, training opportunities for repair technicians and working groups to study mandatory repair certification for technicians.

In concluding, she stated that Maryland's progress has been substantial given the progress of other states. The state has implemented local control measures and will reconvene the 15% plan task force to discuss further attainment strategies.

V. SIP Summaries and Rate of Progress Plans (15% and 3%): Wick Havens, DEP

Wick Havens gave a history and review of the Pennsylvania SIP. The mandated approach is to achieve an initial 15% reduction from 1990 baseline emissions and achieve a 3% reduction each year over a three-year period. The SIP submitted for public comment on August 16, 1996 will assume high-enhanced I&M and will not demonstrate attainment. He stated that submittal of the SIP is an effort to avoid the Federally mandated sanctions and is expected to be amended as the Stakeholders formulate attainment strategies.

VI. Mobil Source Modeling and Drive Cycle Issue Information Requests: Bob Kaiser, COMSIS.

Bob Kaiser addressed requests for information on selected mobile source emissions. Presented results showed that LDGV's (Light Duty Gas Vehicles) produced 84% of VOC's and 77% of NOx of the total on-highway emissions. VOC emissions for LDGV's slope downward until 50 mph to 55 mph where they gradually increase. NOx emissions for this vehicle class were higher at very slow speeds (under 15 mph) and over 45 mph. For this class of vehicles, the highest emissions occur at extremes of speed ranges. As a result, LDGV emissions are minimized when traffic flow is smooth, and a speed of 15-30 mph is achieved for NOx and a speed of 45-55 mph is achieved for VOC's. Findings showed that 1/3 of emissions in a typical trip occur when the vehicle is started and that emissions are therefore best minimized by reducing the number of vehicle trips.

Addressing the relationship between NOx emissions and HDDV (Heavy Duty Diesel Vehicles), his presentation showed HDDV's produce six to fourteen times more NOx per mile than LDGV's. These emissions increase dramatically at speeds in excess of 45 mph and dramatically decrease at speeds under 20 mph.

Day 2
Morning Session:

I. Mobil Source Modeling and Drive Cycle Issue Information Requests, cont.: Bob Kaiser, COMSIS.

Bob Kaiser proceeded to address the findings on emissions and traffic signal synchronization. Presented results showed only small emission decreases from these measures. Of this decrease, the largest impact was derived from synchronization of the most congested arterials--those that raised the driving speed and followed the decreasing emissions curve from 0-25 mph. Emissions reductions require this average speed over a sufficient distance to be achieved. He noted that research efforts regarding the emission reductions from signal synchronization are still incomplete and are on going. Presently, these efforts rely on average speed only, while research to incorporate drive cycle data is on going.

Bob briefly summarized some of the conclusions about the relationship between land use and air quality, indicating that land use should support transportation strategies, that regional strategies are most effective, and that local strategies should support the regional strategies. The group agreed to discuss land use at the June meeting.

Bob concluded by providing an overview of I/M programs, starting with a discussion of testing issues and standard determinants, associated reductions and a listing of possible I/M options for the five-county Philadelphia non-attainment area.

II. Modeling Ozone: Dr. Panos Georgopaulos, Ozone Research Center, Rutgers University

After an overview of the atmospheric chemistry behind ozone formulation, Dr. Georgopaulos explained the details of modeling the variety of inputs to project ozone formulation. The inputs are based on emission estimates gathered by state and federal agencies, as well as from historical meteorological data trends. He noted that there is fundamental agreement between the various agencies and the scientific community with the underlying science and methodology used in the model. He added that while the model uses the 1990 database as a starting point, changes in emissions from regulations, technology or other reasons are input into the model to reflect changes from baseline estimates.

He presented a graph that demonstrated the complex, nonlinear relationship among NOx, VOC and ozone, pointing out the uncertain impact on ozone levels from local NOx and VOC reductions.

From the discussion generated from the presentation, he pointed out that it is prohibitively expensive to test each control option individually to determine its attainment benefit. Instead, several different scenarios can be evaluated by quantifying the reductions associated with a package of control measures and running them through the model. The modelling comparison between sets of control measures is particularly useful where the proposed strategies are radically different from those already represented as inputs. He also pointed out that EPA requires attainment strategies to be submitted with an accompanying modeling result.

In concluding, he stated that there was a synergy between transport and locally produced ozone, adding that if pollution controls are not produced upwind, the impact of attainment strategies will have minimal effect.

Afternoon Session:

III. Projections in Regional Growth: Ron Roggenburk, DVRPC.

Ron Roggenburk presented regional growth projections estimated by the Delaware Valley Regional Planning Commission. These estimates include an increase in the number of jobs in the region by 6% between 1990 and 2020, a net increase in total vehicles in the five-county Philadelphia non-attainment area (Pa. portion only) of 18% and an increase in vehicle ownership. He presented survey results in which respondents were asked to identify the single most important issues facing the region. Survey results showed that 33.8% of respondents named environmental issues and 18.2 named transportation issues, collectively these two categories represent 52% of the respondents concerns.

In concluding, he briefly discussed how projects and activities get included in the regional emissions analysis done by DVRPC and finished his presentation with an introduction to the Ozone Action Partnership, a low cost, voluntary reduction program and educational campaign to reduce emissions during peak ozone days.

IV. Ozone Precursors and Inventory of Available Options: Jim Wilson, E.H. Pechan & Associates, Inc..

Jim Wilson presented the legal requirements of the Federal Clean Air Act and its associated Amendments. These included attainment strategies in: National measures, motor vehicles, NESHAP (National Emissions Standards for Hazardous Air Pollutants, petroleum refinery MACT standard requirements, and acid rain in the 1990 CAAA. He stated that the EPA requires demonstrated attainment and maintenance by modeling. In addition, EPA requires that there be no recorded exceedances for a period of three years on the ground.

IV. Meeting Evaluation and Next Steps:

The May 30 & 31 Stakeholder meeting concluded with suggestions to improve subsequent meetings. Stakeholders agreed that a single set of numbers was needed for emission inventories. It was suggested that this source be the Pa. SIP numbers. Stakeholders were given work sheets to begin to generate a list of attainment strategies and evaluation criteria for presentation at the next Stakeholders meeting.
Suggested areas to improve future meetings included the Stakeholders need to know what attainment strategies may be off limits for consideration, legal opinions on what voluntary efforts EPA will receive credit by EPA and any relevant restrictions in Pa. State law. Other suggestions included that data for presentation be kept consistent, that hand outs have page numbers, name of the presenter, and a list of assumptions underlying the major findings. Finally, Stakeholders agreed that they need time at the next meeting for discussion, rather than presentation, and need to return to small breakout groups in the next meeting.

The next meeting will be June 20 and 21 at the Holiday Inn 4th & Arch.

SOUTHEAST PENNSYLVANIA OZONE STAKEHOLDER WORKING GROUP
Final Meeting Summary
Center City, Philadelphia June 20 & 21

Day 1 Morning Session:

I. Review of May 30 & 31 Meeting Summary, Schedule and Announcements: The June Stakeholders meeting opened with revision and approval of the May meeting summary. The Data Advisory Committee (DAC) gave a progress report on their efforts to provide the Stakeholders with a single set of emission inventory numbers. These should be ready for the July 8 and 9 meeting.

Joe Minott and Nancy Parks announced the June 18 filing of legal action by the Clean Air Council and the Sierra Club against the EPA to compel enforcement of the Federal Clean Air Act requirements. The stakeholders discussed the implications of the lawsuits on their deliberations.

II. Overview of Current Events: Jim Rue, Deputy Secretary, DEP: Jim Rue provided a brief review of relevant current events, including an announcement that he will be attending the upcoming Federal Energy Regulatory Commission (FERC) meetings in Virginia. He also mentioned that the Department of Energy now supports the EPA's position on a national NOx emission standard--a 2/3 reduction to be obtained by a cap and trade program. He said that recent movement at the federal level has been toward a less voluntary Ozone Transport Assessment Group (OTAG) if voluntary measures fail. He also mentioned recent efforts by the EPA on the development of regional haze standards.

III. Control Measure Evaluation Criteria: Jim Wilson, E.H. Pechan & Associates: Jim Wilson presented a list of potential criteria for evaluating and comparing different ozone control measures for consideration by the Stakeholders. Stakeholders then broke into small groups to discuss and expand the list.

From the large group discussion that followed, Stakeholders reached consensus on the evaluation criteria with the addition of some criteria for the location of emission sources (i.e., the 5 county non-attainment area versus statewide, or outside the state).

Considerable debate occurred over ozone transport issues. The group agreed that, although achieving the health based standard required dealing on some level with these transport issues, the focus of the Stakeholders should be kept to the five county non-attainment area to ensure that the group completes its mandate. Wick Havens made the point that for modeling purposes Stakeholders can make choices about assumptions in the model - such as attainment at the boundary - and focus on attainment strategies within the five county area.

Out of this discussion, the stakeholders agreed to recommit to the mandate set forth in the operating agreement and to focus on building consensus for attainment strategies.

Afternoon Session:

IV. DEP's Attainment Recap: Wick Havens, DEP: Wick Havens presented design values for the region's ozone monitoring sites, stating that the design values are high throughout eastern Pennsylvania. He said that monitored data moves in synch-when one monitor shows an exceedance, adjacent monitors also tend to record high readings. He showed that ozone design values for the Philadelphia area from 1980-1994 closely match recorded values in the rest of the region during the same period. These trends also mirror regional weather patterns.

V. Alternative Approaches to Modeling and Attainment: S.T. Rao, NY State DEP: S.T. Rao gave a presentation on ozone transport and the non-attainment problem. He stated that historically, ozone reduction efforts have focused on urban areas, noting that ozone is not a local problem.

Several of the problems he believes are inherent to current approaches to reduce ground level ozone are that attainment strategies focus only on reducing peak values, and that these peak values themselves are statistically unstable. Other problems he noted were that prescriptive controls depend on grid-based attainment demonstration which has a bias toward episodic modeling as well as having a bias on VOC reductions and a focus on urban rather than regional solutions. He said it is difficult to assess the effectiveness of regulatory initiatives in improving air quality because of the weather. A big step toward overcoming these problems, he said, would be to pursue controls that reduce the baseline ozone levels rather than focusing on the peak values.

He said ozone transport is one of the important factors that need to be dealt with because ozone is by nature a regional phenomenon. His research, based on observed data from 1980 to 1992 raw ozone data, shows there is a large reservoir of ozone over the eastern U.S.; local precursor emissions are superimposed on this reservoir.

He suggested that the stakeholders consider the following points in formulating attainment strategies: the baseline required for attainment needs to be reduced 10% to 30%; NOx controls are twice as effective as VOC controls. Evidence also suggests that decreasing VOC's by 25% and NOx by 50% of the total emission, across all sectors, in the entire OTAG region, would produce attainment in the Eastern United States.

He concluded with a caution that because models are very sensitive to boundary conditions, they should not be used on a pass/fail basis but only as directional and relative analysis to indicate if attainment measures are moving emissions in the proper direction.

Day 2
Morning Session:

I. Transportation and Land Use Planning, Rich Bickel, SEPTA: Rich Bickel presented an overview of regional transportation patterns and SEPTA's future planning. He presented demographic projections showing the city of Philadelphia losing 4% of its population while

the surrounding suburbs are increasing by 12%. This regional trend mirrors the decentralized pattern of growth and development throughout the country.

He said that traditional commuting patterns are increasingly being replaced by inter- suburban commenting patterns, noting that the suburban market is difficult to serve for SEPTA because of scattered land use patterns, low population density, and sprawling development. Further compounding the problem he said is site design which is not friendly to mass transit and gas that is cheap and plentiful, encouraging the use of private cars.

He said that SEPTA faces three current difficulties in developing clean-air initiatives: declining ridership, a shortfall in operating subsidies and the allocation of capital funds where 90% of expenditures go toward maintaining existing, aging infrastructure. Additionally, SEPTA is subject to many unfunded federal mandates which further strain limited funds. As a result, future initiatives are limited to new or modified bus routes, possible light-rail extensions, and studies of proposals for a cross-county metro, northeast metro and a schuylkill valley metro to reduce operating costs and respond to changing travel markets.

II. On Board Diagnostics, David Lee, ASE: David Lee passed out information on on-board diagnostics (OBD) and led a Stakeholder discussion on remote sensing.

III. Summary of Potential Control Measures: Jim Wilson, E.H. Pechan & Associates: Jim Wilson reviewed and explained the list of potential control strategies for Stakeholders to consider before they went into small groups to discuss additions, changes or other amendments. He presented control measures by source category, each further divided into strategies for VOC and NOx reductions.

IV. Discussion of Stakeholder amendments to Attainment Strategies: Stakeholders went through the list attainment strategies, adding several to the initial list presented by Jim Wilson.

Afternoon Session:

V. Presentation, Emission Trading: Jim Rue, DEP & Joe Goffman, Environmental Defense Fund: Jim Rue gave a brief overview of the evolution of emission cap and trade programs wherein emission credits have become a currency which can be bought and sold, providing market based incentives for companies to find reductions. He said the advantage of this approach is that the public sector sets the emission levels and market forces determine the most efficient course to achieve those reductions.

Joe Goffman then presented the mechanics of emission cap and trade programs, stating that society has tried to find the right balance of reductions so far by using relatively crude measures. He said that the next generation of reductions will be much more difficult to achieve. Discussing the assets of trading programs, he said that the programs are highly effective because they stimulate the kind of innovation needed for the next level of attainment strategies, as well as providing for market place financing of these strategies. Additionally, he said emissions trading gives

decision making power to the private sector, in return the public gets greater reductions more effectively.

He went on to present the key policy elements of the Illinois cap and trade program, these include seasonal limits on actual emissions, banking of credit limits, inter regional and inter pollutant trading. He concluded with proposals for using Emissions trading as a tool for solving I/M problems.

From the Stakeholders discussion that followed, Tom Maslany expressed concerns over the idea of inter temporal trading of emissions. He also stated that while emission credits coming into the bank are good, those that flow out are potentially harmful.

Jim Rue acknowledged the potential problems with trading programs and stated market based systems are often more effective than site-specific controls. He also said that politically it is often easier to get more reductions through market mechanisms than through traditional command and control strategies. In concluding he said that this approach is an additional tool to be used in conjunction with others to help us reach attainment goals.

VI. Gas Cap Replacement Program: Tony Ippolito, Sun Oil Co: Tony Ippolito gave a brief overview of the kickoff on June 26 of Sun oil Companies gas cap replacement program which aims to send out 25,000 new gas caps to owners of 1988 and older car in the Philadelphia and Pittsburgh areas. He said the program will reduce an estimated 550 tons of pollutants, state-wide during the ozone season (best case scenario).

VII. Public Involvement Committee Progress Report: Mike Hughes provided an update of the Public Involvement Committee progress, these include agreement on the working assumptions that waiting to do public outreach until Stakeholder recommendations is a recipe for failure, and that the public will pay greater attention to an issues immediately after an ozone episode. Agreement was reached that Clark Rupert at DEP would serve as the key contact for general information. Additionally, it was decided that any statement to the public or media be approved by the Stakeholders as group prior to their release.

VIII. Meeting Evaluation and Next Steps: The June 20 & 21 Stakeholder meeting concluded with suggestions to improve subsequent meetings. Suggested areas for improvement included a larger room and one with less noise. It was also requested that Stakeholders receive handouts and other literature prior to the meeting for opportunity to read and review before relevant presentations. Finally, concern was expressed again over the pending litigation initiated by the Clean Air Council and The Sierra Club against the EPA and the potential for this to color the Stakeholder proceedings. Complemented areas from the Stakeholders included S.T. Rao's presentation and the facilitation.

The next meeting will be July 8 & 9 at the Holiday Inn, 4th and Arch, Center City Philadelphia.

Criteria for Evaluating Ozone Control Measures (Revised 6/20)
COST
Capital Cost Operating and Maintenance Cost Annualized Direct Costs Administrative Costs/Issues
EFFICIENCY
Control Efficiency-% reduction from uncontrolled levels Applicability-how many sources, their size Emission Reductions by Pollutant-estimated reductions-VOC only, NOx only, VOC and NOx combined Permanence Measurable Availability
COST-EFFECTIVENESS -cost/ton for each precursor and for both precursors combined, over the lifetime of the control
IMPLEMENTABILITY
Enforcement Ease of Determining Compliance Implementation Ease Timing of Reductions Publicly Acceptable Politically Acceptable Consensual Voluntary Who Pays-Fairness Location
SECONDARY EFFECTS
Secondary Pollutant Benefits-CO,HAPS,etc Secondary Benefits-materials,agricultural,tourism,land use,etc Secondary Costs